

CLAIMS

1    1.    A wafer having a plurality of devices being fabricated thereupon, wherein said  
2    wafer is configured to undergo a chemical mechanical polishing (CMP) step on a surface  
3    of the wafer comprising:

4                a plurality of arrays wherein each array includes a plurality of test features that  
5    project from the wafer surface to be polished, wherein each projecting test feature is  
6    formed with a relatively hard upper surface layer; and

7                wherein the plurality of projecting test features within an array have an identical  
8    diameter, and wherein the diameter of the projecting test features of each different array  
9    differs.

1    2.    A wafer as described in claim 1, wherein said upper surface layer is comprised of  
2    diamond-like-carbon (DLC).

1    3.    A wafer as described in claim 1, wherein each said projecting test feature has a  
2    diameter that is less than approximately 5  $\mu\text{m}$ .

1    4.    A wafer as described in claim 1, wherein each said array is formed with an array  
2    area of at least approximately 400  $\mu\text{m}^2$ .

1    5.     A wafer as described in claim 1, wherein each said array is formed of sufficient  
2     size to be viewable with an optical microscope, where the projecting test features within  
3     each array are too small to be viewable with an optical microscope.

1    6.     A wafer as described in claim 1, wherein the diameter of the projecting test  
2     features within an array is associated with a known polishing time in which said upper  
3     surface layer of the test feature is removed by the polishing process.

1    7.     A wafer as described in claim 6, wherein the different diameter of the projecting  
2     test features of each differing array corresponds to a particular polishing time increment.

1    8.     A wafer as described in claim 7, wherein said polishing time increment is five  
2     seconds.

1    9.     A wafer as described in claim 1, wherein said group of arrays includes nine  
2     arrays.

1    10.    A wafer as described in claim 1, wherein each array within a group of arrays  
2     includes a unique identification symbol associated therewith.

1    11.    A wafer as described in claim 1, wherein each array includes a plurality of  
2     projecting test features that are arranged in a plurality of rows and columns.

3        12. A process for fabricating a magnetic head upon a wafer surface, including a  
4        chemical mechanical polishing (CMP) process step, comprising:

5               forming a plurality of arrays upon a wafer surface, wherein each array includes a  
6        plurality of test features that project from the wafer surface to be polished, wherein each  
7        projecting test feature is formed with a relatively hard upper surface layer, wherein each  
8        said array includes a plurality of projecting test features having an identical diameter, and  
9        wherein the diameter of the projecting test features of each array differs;

10              polishing the wafer surface in a CMP step;

11              checking the progress of the CMP step by examining the wafer surface with an  
12        optical microscope to determine which of the arrays includes test features in which the  
13        upper surface layer of the test features has been removed by the CMP polishing; and  
14              stopping said CMP step when it is seen through the optical microscope that test  
15        features of a previously determined array have had their upper surface removed.

1        13. A process for fabricating a magnetic head as described in claim 12, wherein said  
2        upper surface layer is comprised of diamond-like-carbon (DLC).

1        14. A process for fabricating a magnetic head as described in claim 12, wherein each  
2        said projecting test feature has an effective diameter that is less than approximately 5  $\mu\text{m}$ .

1        15. A process for fabricating a magnetic head as described in claim 12, including  
2        forming each said array with an array area of at least approximately 400  $\mu\text{m}^2$ .

1    16.    A process for fabricating a magnetic head as described in claim 12, including  
2    forming each said array of sufficient size to be viewable with an optical microscope,  
3    where the projecting test features within each array are too small to be viewable with an  
4    optical microscope.

1    17.    A process for fabricating a magnetic head as described in claim 12, including  
2    forming the diameter of the projecting test features within an array to be associated with a  
3    known polishing time in which said upper surface layer of the test feature is removed by  
4    the polishing process.

1    18.    A process for fabricating a magnetic head as described in claim 17, including  
2    forming the different diameter of the projecting test features of each differing array to  
3    correspond to a particular polishing time increment.

1    19.    A process for fabricating a magnetic head as described in claim 18, wherein said  
2    polishing time increment is five seconds.

1    20.    A process for fabricating a magnetic head as described in claim 12, including  
2    forming said group of arrays to include nine arrays.

1    21.    A process for fabricating a magnetic head as described in claim 12, wherein each  
2    array within a group of arrays is formed with a unique identification symbol.

1    22.    A process for fabricating a magnetic head as described in claim 12, wherein each  
2    array includes a plurality of projecting test features that are arranged in a plurality of  
3    rows and columns.